

Nonlinear Crystal Oven with built-in Thermocontroller

TK8 SERIES

Oven TK8

TK8 crystal oven with an internal thermocontroller is an optimal device for precise nonlinear crystal temperature control from room temperature up to 80 °C. The TK8 crystal oven is designed for a wide range of nonlinear crystals: KTP, LBO, CLBO, BBO, KDP, DKDP, LiNbO₃. These nonlinear crystals are used for frequency conversion of a laser beam for SHD, THD, OPO, SFG and DFG applications. TK8 crystal oven ensures

efficient phase matching, mitigation of water absorption and prevention of absorption peaks in nonlinear crystals.

TK8 crystal oven, with an internal thermocontroller, can fit crystals with apertures up to 15×15 mm and lengths up to 20 mm. TK8L and TK8XL ovens are designed for crystals up to 30 mm and 50 mm long. Each oven is specifically designed for a given crystal aperture size and cannot

FEATURES

- ▶ Internal thermocontroller
- ▶ Custom crystal apertures up to 60 x 60 mm or more
- ▶ High temperature (up to 80 °C)
- ▶ High accuracy (± 0.5 °C)
- ▶ Digital control (via CAN)

APPLICATIONS

- ▶ Frequency conversion of a laser beam for SHG, THG, OPO, SFG and DFG

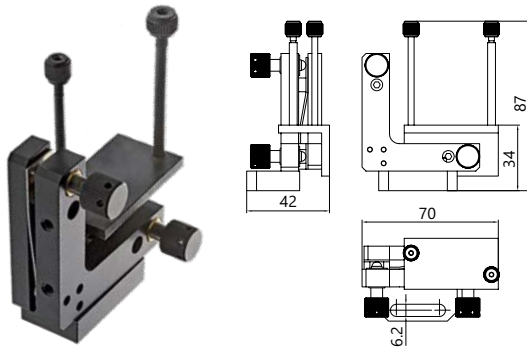
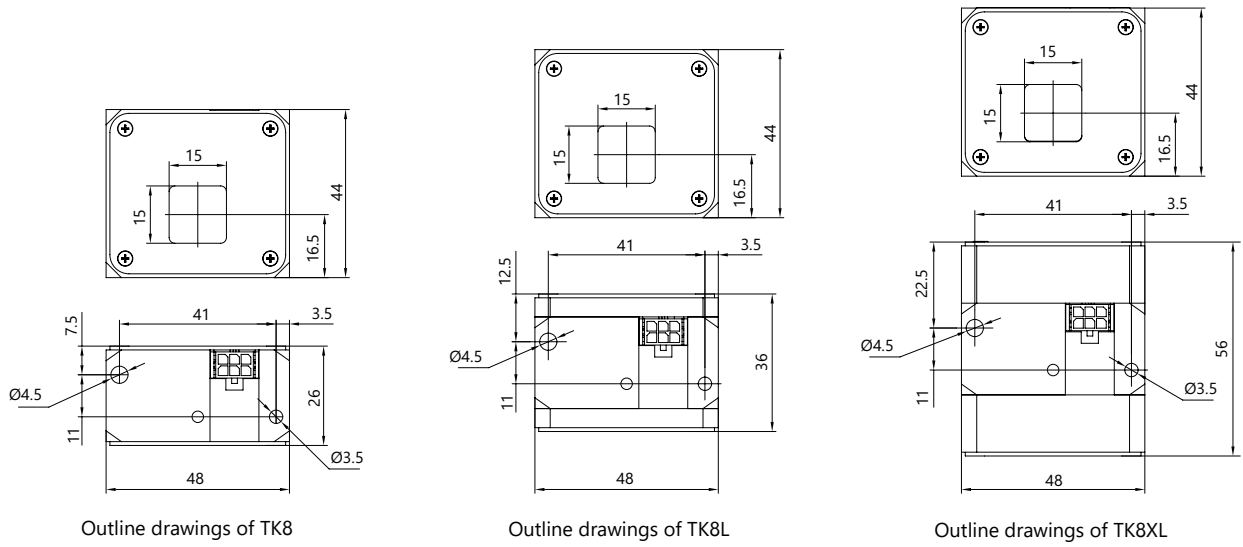
accommodate different-sized crystals. Temperature can be either preset at factory or customer can set it himself while using Ekspla's CAN-USB converter (sold separately) via Ekspla's software (included by default). TK8 crystal ovens can operate either in autonomous or present time modes. Upon request Ekspla can manufacture tailored ovens for crystals with an apertures up to 60 × 60 mm or more.

SPECIFICATIONS

| Model | TK8 | TK8L | TK8XL |
|--|---|-------------|-------------|
| Temperature range | From room temperature to 80 °C | | |
| Maximum crystal dimensions ¹⁾ | 15×15×20 mm | 15×15×30 mm | 15×15×50 mm |
| Temperature tuning step | 0.01 °C | | |
| Accuracy | ± 0.5 °C | | |
| Long-term stability | ± 0.05 °C | | |
| Control interfaces | CAN | | |
| Supply voltage | 12 – 24 V | | |
| Power consumption | < 6 W | < 6 W | < 9 W |
| Oven dimensions, W×H×D | 48×44×26 mm | 48×44×36 mm | 48×44×56 mm |
| Crystal center position above pad | 16 mm | | |
| Accessories | Wall plug power supply (included by default), Ekspla's CAN-USB adapter (included upon request), H1 mounting stage (included upon request) | | |

¹⁾ Crystal holder's aperture can be customized to fit crystals up to 60×60 mm or more.

DRAWINGS



Mount H1 for fine tuning of TK8 crystal ovens angle.
The tuning range is $\pm 2.5^\circ$